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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/629,785

07/31/2000

Duncan J. Forbes

476-1934

4864

7590

11/17/2004

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EXAMINER

PHAN, HANH

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/629,785

**Applicant(s)**

FORBES ET AL.

**Examiner**

Hanh Phan

**Art Unit**

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office Action is responsive to the RCE filed on 08/23/2004.
2. In claim 23, lines 15 and 16, the phrase "wherein a non-serially connected input port of one of said respective **splitters** forms an input of one of said nodes" should be changed to -- wherein a non-serially connected input port of one of said respective **couplers** forms an input of one of said nodes--.
3. In claim 30, lines 15 and 16, the phrase "wherein a non-serially connected input port of one of said respective **splitters** forms an input of one of said nodes" should be changed to -- wherein a non-serially connected input port of one of said respective **couplers** forms an input of one of said nodes--.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23-30 are rejected under 35 U.S.C. 103(a) as being obvious over Asahi (US Patent No. 6,023,359) in view of Prior Art Fig. 2.

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Regarding claims 23 and 30, referring to Figures 3 and 4, Asahi discloses a communications network for connecting a plurality of nodes (i.e., nodes 1-1, 1-2,...,1-n, Fig. 3), the network comprising:

first, second, third and fourth optical networks (i.e., first, second, third and fourth transmission lines 2-1 through 2-4, Fig. 3) each arranged to be capable of carrying a respective first, second, third and fourth set of channels, said first and second set of channels (i.e., transmission lines 2-1 and 2-3, Fig. 3) being carried in an opposite direction to said third and fourth set of channels (i.e., transmission lines 2-2 and 2-4, Fig. 3) with respect to said nodes,

said first and third optical networks (i.e., transmission lines 2-1 and 2-2, Fig. 3) each comprising a plurality of filters (i.e., filters 101-2 and 102-2, Fig. 4) serially connected by optical waveguides such that an output port of one of said respective filters is connected to an input port of another of said respective filters, and wherein a non-serially connected output port of one of said filters forms an output of one of said nodes (i.e., ; a non-serially connected output port of one of the filters such as filter 101-2, Fig. 4, forms an output of one of the node);

said second and fourth optical networks (i.e., transmission lines 2-3 and 2-4, Fig. 3) each comprising a plurality of couplers (i.e., couplers 103-3 and 104-3, Fig. 4) serially connected by optical waveguides such that an output port of one of said respective couplers is connected to an input port of another of said respective couplers, and wherein a non-serially connected input port of one of said couplers forms an input of one of said nodes (i.e., ; a non-serially connected input port of one of the couplers such

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as coupler 103-3, Fig. 4, forms an input of one of the node)(col. 7, lines 54-67 and col. 8, lines 1-43).

Asahi differs from claims 23 and 30 in that he fails to teach the filters are splitters. However, Prior Art Fig. 2 teaches the filters are splitters. Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the filters are splitters as taught by the Prior Art Fig. 2 in the system of Asahi. One of ordinary skill in the art would have been motivated to do this since the Prior Art Fig. 2 suggests that using such the filters are splitters have advantage of allowing providing low loss routes for wavelengths around the network and these splitters have small dimensions, they are comparatively cheap.

Regarding claim 24, Asahi further teaches wherein the output of one of the nodes and the input of one of the nodes are an output and input of the same node (Fig. 4).

Regarding claim 25, the combination of Asahi and Prior art Fig. 2 teaches wherein at least one of the nodes (i.e., node 1-1, Fig.4 of Asahi) comprises outputs formed from non-serially connected output ports of respective splitters of the first and third optical networks (i.e., outputs of filters 101-2 and 102-2 and these outputs are formed from non-serially connected output ports of the filters 101-2 and 102-2 of the transmission line 2-1 and transmission line 2-2, Fig. 4 of Asahi and Prior art Fig. 2).

Regarding claim 26, the combination of Asahi and Prior art Fig. 2 teaches wherein at least one of the nodes (i.e., node 1-1, Fig.4 of Asahi) comprises inputs formed from non-serially connected input ports of respective couplers of the second and fourth optical networks (i.e., inputs of couplers 103-3 and 104-3 and these inputs are

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formed from non-serially connected input ports of the couplers 103-3 and 104-3 of the transmission line 2-3 and transmission line 2-4, see Fig. 4 of Asahi and Prior art Fig. 2).

Regarding claim 27, the combination of Asahi and Prior art Fig. 2 teaches the splitters and couplers are periodic interleaving filters (see Prior Art Fig. 2).

Regarding claim 28, the combination of Asahi and Prior art Fig. 2 teaches the periodic interleaving filters are fused fiber splitters or couplers (see Prior Art Fig. 2).

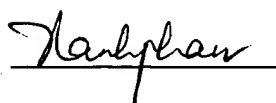
Regarding claim 29, the combination of Asahi and Prior art Fig. 2 teaches the splitters and couplers are respectively arranged to split and couple channels equally between outputs and inputs (see Fig. 4 of Asahi and Prior Art Fig. 2).

### **Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



Hanh Phan

Primary Examiner

11/02/04